JC10 Rec'd PCT/PTO 15 FEB 2002

Form PTO-1390U.S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE (REV 10-95) TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NUMBER **0388-020199** U S. APPLICATION NO (If known, see 37 CFR 1 5) **10/049694**
INTERNATIONAL APPLICATION NO. **PCT/JP00/05458**	INTERNATIONAL FILING DATE **14.08.00 (14 August 2000)**	PRIORITY DATES CLAIMED **17.08.99 (17 August 1999)**

TITLE OF INVENTION **EYE DROPS CONTAINER HAVING DENT PORTION**

APPLICANT(S) FOR DO/EO/US **Yoichi KAWASHIMA, Yukio KUSU and Hiroshi YAMADA**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items And other information

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S C 371.
3. ☒ This express request to begin national examination procedures (35 U S C 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U S C. 371(b) and PCT Articles 22 and 39(1)
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date
5. ☒ A copy of the International Application as filed (35 U.S.C 371(c)(2))
   a ☐ is transmitted herewith (required only if not transmitted by the International Bureau)
   b ☒ has been transmitted by the International Bureau.
   c ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☒ A translation of the International Application into English (35 U S.C. 371(c)(2))
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U S C 371(c)(3))
   a ☐ are transmitted herewith (required only if not transmitted by the International Bureau)
   b ☐ have been transmitted by the International Bureau.
   c ☐ have not been made, however, the time limit for making such amendments has NOT expired
   d ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U S C 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S C 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U S.C. 371(c)(5))

Items 11. to 16. below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1 98
12. ☐ An assignment document for recording A separate cover sheet in compliance with 37 CFR 3 28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment
    ☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information.
    a. WO 01/12125-Front Page (2 pp.) And International Search Report (2 pp.)

U.S APPLICATION NO (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
10/049694	PCT/JP00/05458	0388-020199

17. ☒ The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):

Search Report has been prepared by the EPO or JPO.. . .. **$890.00**

International preliminary examination fee paid to USPTO (37 CFR 1 482) **$710.00**

No international preliminary examination fee paid to USPTO (37 CFR 1 482) but international search fee paid to USPTO (37 CFR 1 445(a)(2)) **$740.00**

Neither international preliminary examination fee (37 CFR 1 482) nor International search fee (37 CFR 1.445(a)(2)) paid to USPTO..... **$1040.00**

International preliminary examination fee paid to USPTO (37 CFR 1 482) and all claims satisfied provisions of PCT Article 33(2)-(4). . . . **$100.00**

CALCULATIONS PTO USE ONLY

ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 890.00	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☒ 30 months from the earliest claimed priority date (37 CFR 1 492(e))	$ 130.00	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	6 - 20	0	X **$18.00**	$ 0.00	
Independent claims	1 - 3 =	0	X **$84.00**	$ 0.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ **$280.00**	$ 0.00	
TOTAL OF ABOVE CALCULATIONS =				$ 1020.00	
Reduction of 1/2 for filing by small entity, if applicable.				$ 0.00	
SUBTOTAL =				$ 1020.00	
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)) +				$ 0.00	
TOTAL NATIONAL FEE =				$ 1020.00	
Fee for recording the enclosed assignment (37 CFR 1 21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) **$40.00** per property +				$ 0.00	
TOTAL FEES ENCLOSED =				$ 1020.00	
				Amount to be: Refunded	$
				Charged	$

a. ☒ A check in the amount of $ **1020** to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No ____ in the amount of $ _____ to cover the above fees
A duplicate copy of this sheet is enclosed

c. ☒ The Assistant Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No 23-0650 A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

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PATENT APPLICATION/PCT
Attorney Docket No. 0388-020199

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	
Yoichi KAWASHIMA Yukio KUSU Hiroshi YAMADA	: : :	EYE DROPS CONTAINER HAVING DENT PORTION
International Application No. PCT/JP00/05458	: :	
International Filing Date 14 August 2000	: :	
Priority Date Claimed 17 August 1999	: :	
Serial No. Not Yet Assigned	:	
Filed Concurrently Herewith	:	

Pittsburgh, Pennsylvania
February 15, 2002

PRELIMINARY AMENDMENT

Box PCT
Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to initial examination, please amend the above-identified patent application as follows:

IN THE CLAIMS:

Please amend claim 4 as follows:

4. (Amended) The eye drops container according to claim 1, wherein the container body having the barrel portion comprises a container body made of thermoplastic resin material which is filled with a solution simultaneously with its forming operation.

Please add new claims 5 and 6 as follows:

5. The eye drops container according to claim 2, wherein the container body having the barrel portion comprises a container body made of thermoplastic resin material which is filled with a solution simultaneously with its forming operation.

6. The eye drops container according to claim 3, wherein the container body having the barrel portion comprises a container body made of thermoplastic resin material which is filled with a solution simultaneously with its forming operation.

REMARKS

The claims have been amended to place the application in conformance with standard United States patent practice.

Attached hereto is a marked-up version of the changes made to the specification by the current amendment. The attachment is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

Examination and allowance of pending claims 1-6 are respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claim 4 has been amended as follows:

4. (Amended) The eye drops container according to claim 1, [2 or 3,] wherein the container body having the barrel portion comprises a container body made of thermoplastic resin material which is filled with a solution simultaneously with its forming operation.

SPECIFICATION

TITLE OF THE INVENTION

EYE DROPS CONTAINER HAVING DENT PORTION

TECHNICAL FIELD

The present invention relates to an eye drops container for containing a solution of medicine therein, and more particularly to an eye drops container composed of a hollow cylinder having flexibility at least at a barrel portion thereof.

BACKGROUND ART

As conventional eye drops containers, especially eye drops containers for medical use, hollow cylindrical containers are widely in use. For instance, a container composed of a hollow cylindrical container body with an inner nozzle tip attached thereto and a container unitary molded a barrel portion of its container body and a liquid instilling portion by means of the blow molding method or vacuum molding method are currently available (see Japanese published utility model gazette No. Sho. 39-11991 for example). Further, as material forming the container, soft thermoplastic resin is generally employed for readiness of its molding.

With the eye drops containers of the above-noted type, for instilling the solution of medicine from the container, the barrel portion of the container will be gripped with two fingers and then the container will be held still at an instilling posture with the instilling nozzle facing an eye to be dispensed with the medicine. Kept under this posture, the barrel portion of the container will be pressed toward the center axis of the

container body, thereby to supply a drop of the solution of medicine from the instilling nozzle of the container.

For facilitating the pressing action above, the cylindrical hollow container body is formed of soft thermoplastic resin. However, a person with weak physical strength for the pressing action, such as an aged person, will often find it difficult to control the pressing action. Further, such person with weak gripping strength, such as an aged person, may find it difficult also to maintain the finger gripping position in a stable manner.

The present invention has been made in view of the above-described state of the art and its primary object is to provide a handier eye drops container which provides superior "squeezability" and greater gripping ease through simple and inexpensive modification in the barrel portion of the container.

DISCLOSURE OF THE INVENTION

According to the characterizing feature of an eye drops container having a dent portion relating to claim 1, the container includes a flexible hollow cylindrical barrel portion defining a dent portion which can be gripped with two fingers.

With the above-described characterizing feature, in instilling the solution of medicine from the container body, the dent portion defined in the barrel portion of the container will be gripped with two fingers, so that the gripping position at the tips of the fingers may be maintained in a stable manner. Moreover, when the barrel portion of the container is pressed, the part of this barrel portion contacting the finger tips is dented in advance, so that the force required for the pressing action may be reduced, compared with a case where the part of the cylindrical barrel portion has to be deformed against the elastic resilience.

Accordingly, although the arrangement comprises the simple and

inexpensive modification of forming a dent portion in the hollow cylindrical barrel portion, the eye drops container is easier to be gripped and provides superior squeezability with reduced pressing force required. Consequently, there has been achieved an eye drops container having a dent portion easier to use which dropper allows accurate and easy instillation of a solution of medicine from the container.

According to the characterizing feature of an eye drops container having a dent portion relating to claim 2, the dent portion comprises flat or substantially flat gripping faces which are formed concave respectively at two peripheral portions of the barrel portion.

With the above feature, when the barrel portion of the container body is to be gripped with two fingers, this is done by gripping the flat or substantially flat gripping faces at the two portions of the barrel portion. Thus, the local feeling of pressure felt by the gripping fingers may be reduced, whereby the gripping ease may be further increased.

According to the characterizing feature of an eye drops container having a dent portion relating to claim 3, the dent portion comprises curved concave gripping faces which are formed concave respectively at two peripheral portions of the barrel portion, each gripping face being progressively closer to a central axis of the container body as the face extends toward the longitudinal center of the central axis.

With the above feature, when the barrel portion of the container body is to be gripped with two fingers, this is done by gripping the curved concave gripping faces which are formed along the curved surfaces of the fingers. Thus, the local feeling of pressure felt by the gripping fingers may be non-existent or substantially non-existent, whereby the gripping ease or comfort may be further increased.

According to the characterizing feature of an eye drops container having a dent portion relating to claim 4, the container body having the barrel portion comprises a container body made of thermoplastic resin

material which is filled with liquid simultaneously with its forming operation.

With the above feature, for eye drops containers for medical use of which manufacture cost reduction is required too, the gripping ease and the squeezability may be improved while achieving the manufacture cost reduction required.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front view of a container body relating to a first embodiment of an eye drops container having a dent portion according to the present invention,

Fig. 2 is a side view of the container body,

Fig. 3 is a side view in section showing the entire eye drops container,

Fig. 4 is a plan view in section showing the container body,

Fig. 5 is a side view in section showing the container body during liquid instilling operation,

Fig. 6 is a front view of a container body relating to a second mode of embodiment of an eye drops container having a dent portion according to the present invention,

Fig. 7 is a side view of the container body,

Fig. 8 is a side view in section showing the entire eye drops container,

Fig. 9 is a plan view in section showing the container body,

Fig. 10 is a side view in section showing the container body during liquid instilling operation,

Fig. 11 is an overall front view in section showing a third mode of embodiment of an eye drops container having a dent portion according to the present invention,

Fig. 12 is an overall front view in section showing a fourth mode of embodiment of an eye drops container having a dent portion according to the present invention, and

Fig. 13 is a side view showing a container body relating to a comparison example.

BEST MODE OF EMBODYING THE INVENTION

For more detailed description thereof, the present invention will be described with reference to accompanying drawings.

[first mode of embodiment]

Figs. 1 through 5 show an eye drops container having a dent portion according to the present invention mainly for use in medical treatment. The dropper includes a container body A made of thermoplastic resin material and charged with a predetermined amount of a solution of medicine therein simultaneously with the blow molding or vacuum molding thereof, and a cap B detachably threaded to a male thread 5a of a threaded cylindrical portion 5 of the container body A.

The container body A includes a circular bottom 1 which is curved inwardly, a hollow cylindrical barrel portion 2 extending continuously from its peripheral edge, a cylindrical neck portion 3 extending continuously from a shoulder 2a of the barrel portion 2, a circular ring-like stepped portion 4 extending radially outward from an upper portion of the neck portion 3, the threaded cylindrical portion 5 extending continuously and upwardly from the stepped portion and having the male thread 5a, and a solution instilling cylindrical portion 6 extending continuously and upwardly from the threaded cylindrical portion and having a instilling nozzle 6a.

The thermoplastic resin material forming this container body A can

be polyethylene, polyethylene-polypropylene, polypropylene, polyethylene terephthalate, polycarbonate, etc. Thus, the entire formed container body A can be elastically deformed.

The solution instilling cylindrical portion 6 of the container body A defines a recess 6b in the form of a conical recess with a bottom, the recess having a progressively increasing inner diameter toward the instilling nozzle 6a. In the bottom face of this recess 6b, there is formed a small instilling nozzle hole 6c which allows control of a solution instilling amount to be pushed out of the container body A in association of a pressing action on the barrel portion 2 with fingers to a predetermined amount.

The recess 6b has a depth ranging between 2 mm and 7 mm, preferably between 5 mm and 7 mm, and most preferably 6 mm. Also, the aperture (aperture diameter) of the liquid outlet 6a may be adjusted within a range of ϕ 2.0 mm to ϕ 4.0 mm, depending on the property of the solution of medicine.

Specifically, in order to maintain one instilling amount constant, for a solution of medicine having a large surface tension, the aperture of the instilling nozzle 6a will be reduced. For a solution having a small surface tension, the aperture of the instilling nozzle 6a will be increased.

Further, the instilling nozzle hole 6c is formed by using a needle having a diameter ranging between ϕ 0.1 mm and ϕ 0.8 mm. The smaller the diameter of this needle is the better. And, a diameter of about ϕ 0.2 mm is most preferred. However, if it is too small, this will present technical difficulty. Therefore, in actuality, a needle in the range from ϕ 0.4 mm to ϕ 0.6 mm is employed.

The barrel portion 2 of the container body A forms a dent portion 7 which can be gripped with two fingers. Further, this dent portion 7 comprises a pair of gripping faces 7a which are formed as flat or substantially flat recesses provided at two peripheral portions of the barrel portion 2 and at two regions opposing to each other across an axis X of the

container.

Each gripping face 7a is formed as a mildly curved portion having a curvature smaller than that of the remaining portion of the barrel portion 2 when viewed along the direction of the container axis X. Further, when viewed in the radial direction (viewed from its front) normal to the container axis X direction, the gripping face has an intermediate portion excluding the opposed ends in the container axis X direction which intermediate portion is formed straight parallel with the container axis X.

The cap B integrally forms a plug-like projection 8 which is engaged into the recess 6b of the container body A for sealing when the cap is threaded on the male thread 5a of the container body A.

[second mode of embodiment]

Figs. 6 through 10 show a modified embodiment of the dent portion 7 formed in the barrel portion 2 of the container body A to be gripped with two fingers. This modified dent portion comprises a pair of curved gripping faces 7b which are formed concave respectively at two peripheral portions of the barrel portion, each gripping face being progressively closer to the container axis X as the face extends toward the longitudinal center of the container axis X.

Specifically, each gripping face 7b is formed as a mildly curved portion having a curvature smaller than that of the remaining portion of the barrel portion 2 when viewed along the direction of the container axis X. Further, when viewed in the radial direction (viewed from its front) normal to the container axis X direction, the gripping face is curved so that the gripping face comes progressively closer to the container axis X as the face extends toward the longitudinal center of the container axis X.

Incidentally, the rest of the construction is identical to that of the construction described in the first embodiment. Therefore, its identical

portions of the construction are denoted with the identical reference numerals employed in the first embodiment and description thereof will be omitted.

[third mode of embodiment]

In the respective foregoing modes of embodiment, in the solution instilling cylindrical portion 6 of the container body A formed by the blow molding method or vacuum molding method, there are formed, in advance, the recess 6b in the form of a cone having a bottom and having a progressively increasing inner diameter toward the instilling nozzle 6a and the small instilling nozzle hole 6c which allows control of a solution instilling amount to be pushed out of the container body A in association of a pressing action on the barrel portion 2 with fingers to a predetermined amount. The present invention is not limited to such eye drops container. A further construction is possible as shown in Fig. 11, in which a cap B integrally forming a needle-like projection 9 for piercing the instilling nozzle hole at the leading end of the container body A is detachably threaded on a male thread 5a of the container body A made of the flexible thermoplastic resin material and charged and sealed with a predetermined amount of a solution of medicine simultaneously with the blow molding or vacuum molding operation. Then, with a threading operation of the cap B to a position one step deeper than its normal closed position, the needle-like projection 9 of the cap B will form a instilling nozzle hole 6a at the leading end of the container body A.

Incidentally, the rest of the construction is identical to that of the construction described in the first embodiment. Therefore, its identical portions of the construction are denoted with the identical reference numerals employed in the first embodiment and description thereof will be omitted.

[fourth mode of embodiment]

In the first and second modes of embodiment described above, the container body A of the eye drops container is formed by the blow molding method or vacuum molding method to obtain an inner nozzle tip function. However, the invention is not limited to the eye drops container having such construction. A further construction is shown in Fig. 12, in which an inner nozzle tip 11 formed by the injection molding method is engaged to a cylindrical mouth portion 10 of the container body A.

Incidentally, the rest of the construction is identical to that of the construction described in the first embodiment. Therefore, its identical portions of the construction are denoted with the identical reference numerals employed in the first embodiment and description thereof will be omitted.

[Embodiments]

Two types of eye drops containers having a dent portion in the barrel portion relating to the present invention and an eye drops container in the form of a hollow cylinder not having such dent portion in the barrel portion relating to a comparison example were prepared and the operability of these eye drops containers was studied with regard to their squeezability.

An eye drops container made of polyethylene relating to Embodiment 1 has a configuration corresponding to the container body A according to the first mode of embodiment. Specifically, this polyethylene eye drops container relating to Embodiment 1 has a total length of 56.4 mm in its container axis X direction and its liquid outlet 6a has an aperture (aperture diameter) of 2.9 mm. And, its barrel portion 2 is formed as a cylindrical portion with upper end lower ends thereof chamfered, the

cylindrical portion having a height of 33.7 mm and a diameter of 19.6 mm. And, in the lateral face of the barrel portion 2, there are formed a pair of dent portions 7 as recesses having a height H of 19.5 mm, a width W of 13.3 mm and a maximum depth D of 1.6 mm (see Figs. 1 and 2).

An eye drops container made of polyethylene relating to Embodiment 2 has a configuration corresponding to the container body A according to the second mode of embodiment. Specifically, this polyethylene eye drops container relating to Embodiment 2 has a total length of 56.4 mm in its container axis X direction and its instilling nozzle 6a has an aperture (aperture diameter) of 2.9 mm. And, its barrel portion 2 is formed as a cylindrical portion with upper end lower ends thereof chamfered, the cylindrical portion having a height of 33.7 mm and a diameter of 19.6 mm. And, in the lateral face of the barrel portion 2, there are formed a pair of dent portions 7 as recesses having a height H of 19.5 mm, a width W of 13.3 mm and a maximum depth D of 1.6 mm (see Figs. 6 and 7).

A conventional eye drops container made of polyethylene relating to the comparison example, as shown in Fig. 13, includes a barrel portion in the form of a hollow cylinder and has an identical construction to Embodiments 1 and 2, except that no dent portion is provided. Therefore, its identical portions of the construction are denoted with the identical reference numerals employed in the first embodiment and description thereof will be omitted.

These three types of polyethylene eye drops containers are made of a raw material: TOSOH175K (trade name, manufactured by TOSOH Corporation). For obtaining the containers, the raw material was melted and molded so that the containers obtained the weights of 2.0 g, 2.2g and 2.4 g, respectively.

Each polyethylene eye drops container (specimen) containing water therein was set at a predetermined position on a measuring device, with the

solution instilling cylindrical portion 6 thereof being oriented downwards. Then, a chip of the squeezability measuring device was placed against the outer surface center of the dent portion 7 (the barrel portion in the case of the comparison example) of this polyethylene eye drops container. After confirming that no water was present inside except for the recess 6b of the solution instilling cylindrical portion 6 (that is, no air remained adjacent the instilling nozzle 6a), the chip was moved toward the axis of the polyethylene eye drops container to press it and the pressing force required for causing a drop of water to be instilled from the instilling nozzle 6a of the polyethylene eye drops container was determined by means of a digital force gauge attached to the measuring device.

In the squeezability tests of the 9 types of polyethylene eye drops containers described above, five specimens was used for each type to conduct 5 tests for each specimen. Average values obtained from these tests are shown in Table 1 below.

Table 1

pressing force needed for instillation of one drop of water (unit N)

container weight (g)	Embodiment 1	Embodiment 2	Comparison example
2.0	1.78	2.10	5.35
2.2	2.39	2.60	5.93
2.4	3.34	3.26	6.15

From Table 1 above, it may be seen that for all of the Embodiments 1,2 and Comparison example, the greater the container weight of the eye drops container, that is, the greater its wall thickness, the greater the pressing force required for obtaining instillation of one drop of water therefrom.

However, comparison among the containers of a same container

weight reveals the following. Namely, with the eye drops containers having the dent portion 7 in the barrel portion 7 relating to the Embodiments 1 and 2, the content (water) can be instilled with a pressing force which ranges from about 1/3 to a 1/2 of that required for the eye drops container relating to the comparison example, demonstrating that the simple and inexpensive modification provided to the barrel portion of the container body improves the squeezability. With thus improved squeezability, even a person having weak pressing or gripping force can readily manipulate the eye drops container for instilling the solution of medicine contained therein.

[other modes of embodiment]

(1) In the respective modes of embodiments described above, each gripping face 7a, 7b constituting the dent portion 7 is mildly curved with smaller curvature than that of the remaining portion of the barrel portion 2 as viewed in the container axis X direction. Instead, the invention may be embodied also with forming each gripping face 7a, 7b as a straight flat face extending tangentially as viewed in the container axis X direction or as a concave curved face which is concave toward the container axis X.

(2) The container body A may be of any construction as long as its barrel portion 2 is provided as a flexible hollow cylindrical portion.

(3) In the respective modes of embodiments described above, the respective gripping faces 7a, 7b constituting the dent portion 7 are provided at two peripheral regions of the barrel portion 7. Instead, they may be provided at more than three peripheral regions of the barrel portion 2.

INDUSTRIAL APPLICABILITY

The eye drops container having a dent portion according to the present invention may be used as e.g. an eye drops container for use in instilling a solution of eye medicine for medical treatment.

What is claimed is:

1. An eye drops container having a dent portion, wherein the dropper includes a flexible hollow cylindrical barrel portion defining a dent portion which can be gripped with two fingers.

2. The eye drops container according to claim 1, wherein the dent portion comprises flat or substantially flat gripping faces which are formed concave respectively at two peripheral portions of the barrel portion.

3. The eye drops container according to claim 2, wherein the dent portion comprises curved concave gripping faces which are formed concave respectively at two peripheral portions of the barrel portion, each gripping face being progressively closer to a central axis of the container body as the face extends toward the longitudinal center of the central axis.

4. The eye drops container according to claim 1, 2 or 3, wherein the container body having the barrel portion comprises a container body made of thermoplastic resin material which is filled with a solution simultaneously with its forming operation.

ABSTRACT OF DISCLOSURE

In an eye drops container, a barrel portion 2 in the form of a flexible hollow cylinder defines a dent portion 7 which can be gripped with two fingers.

Fig. 1

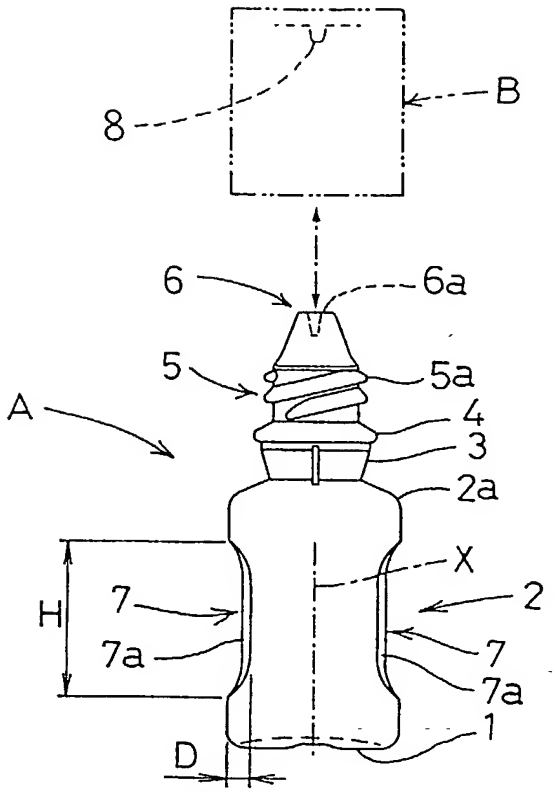


Fig. 2

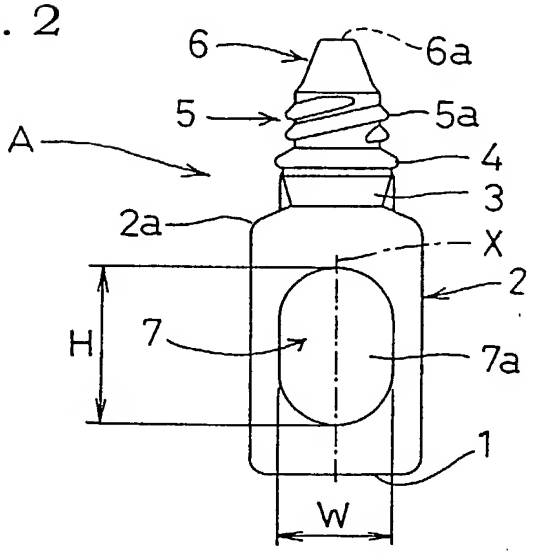


Fig. 3

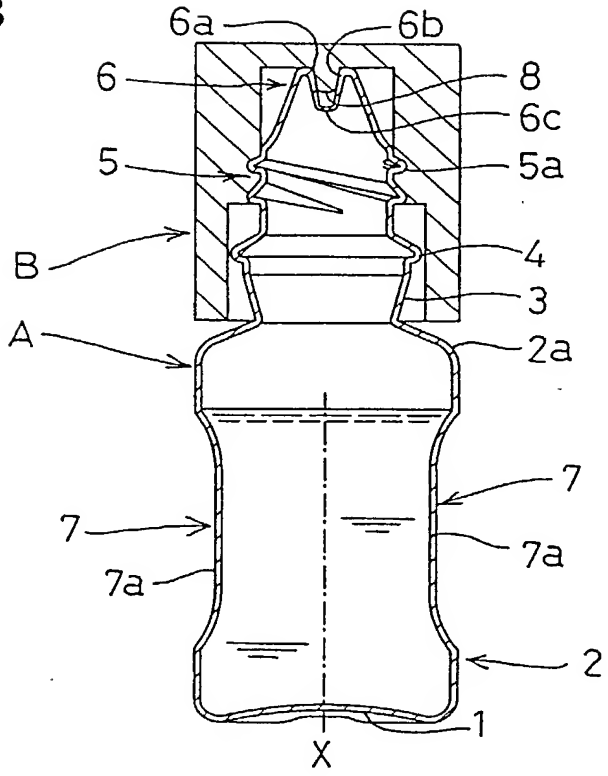


Fig. 4

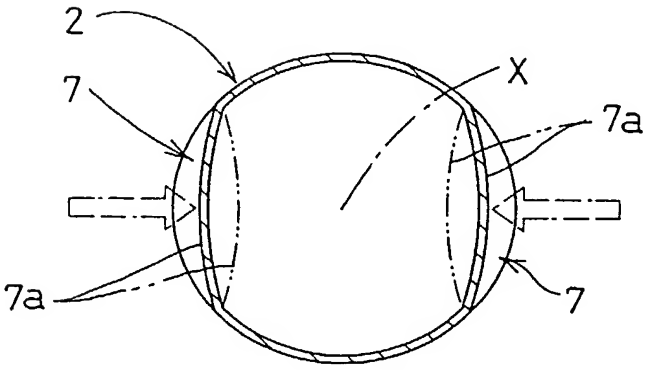


Fig. 5

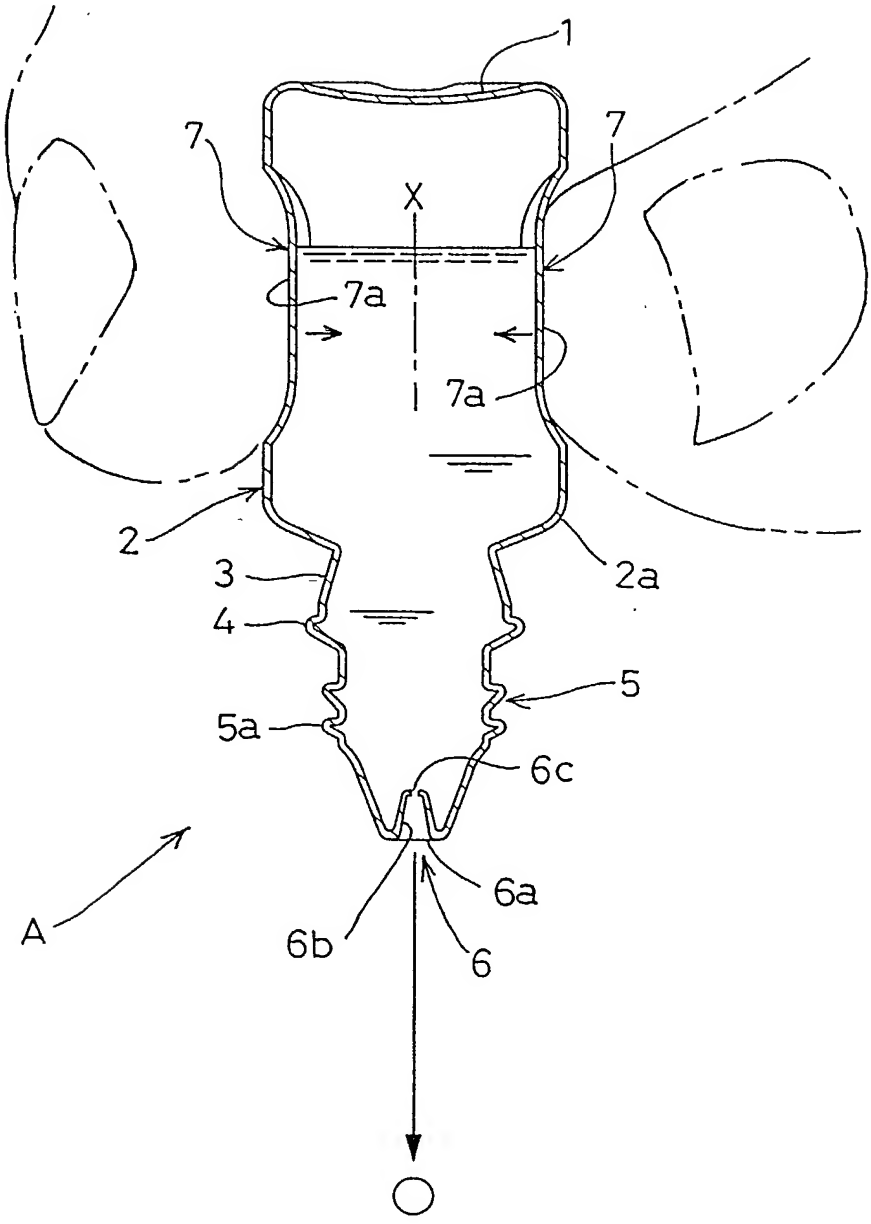


Fig. 6

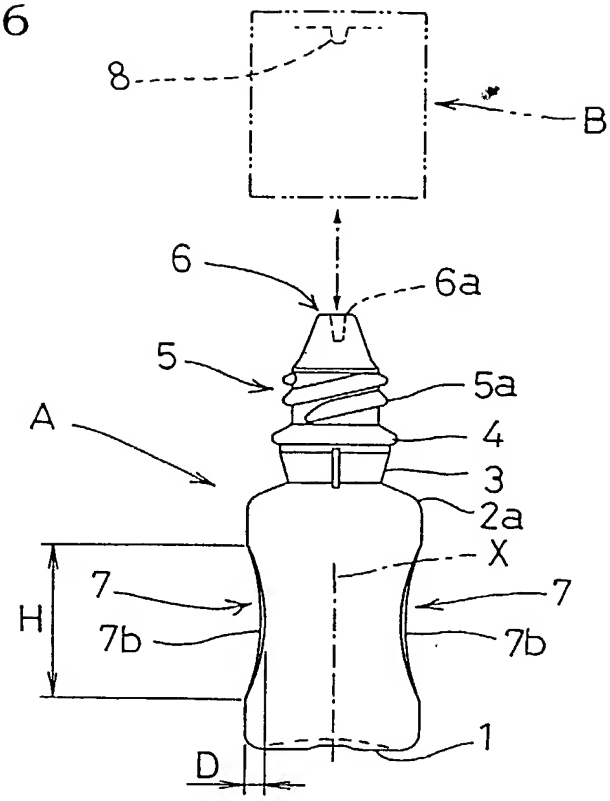


Fig. 7

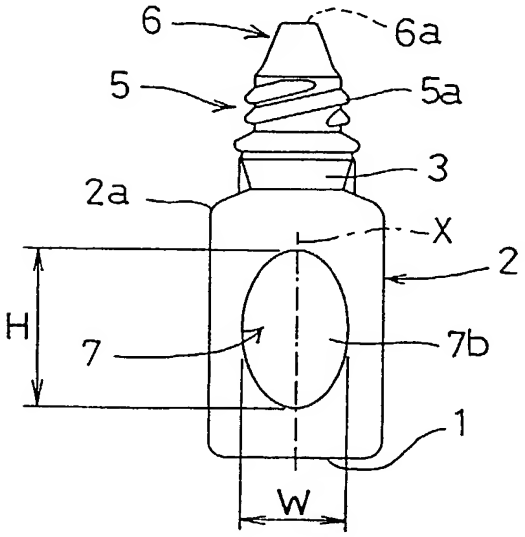


Fig. 8

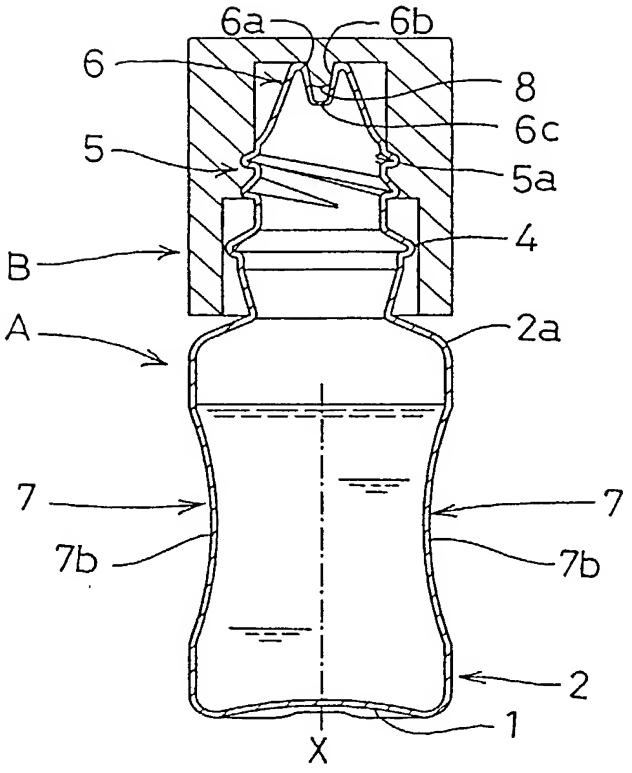


Fig. 9

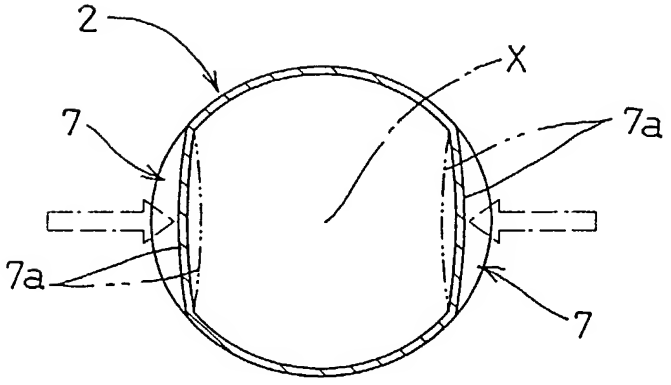


Fig. 10

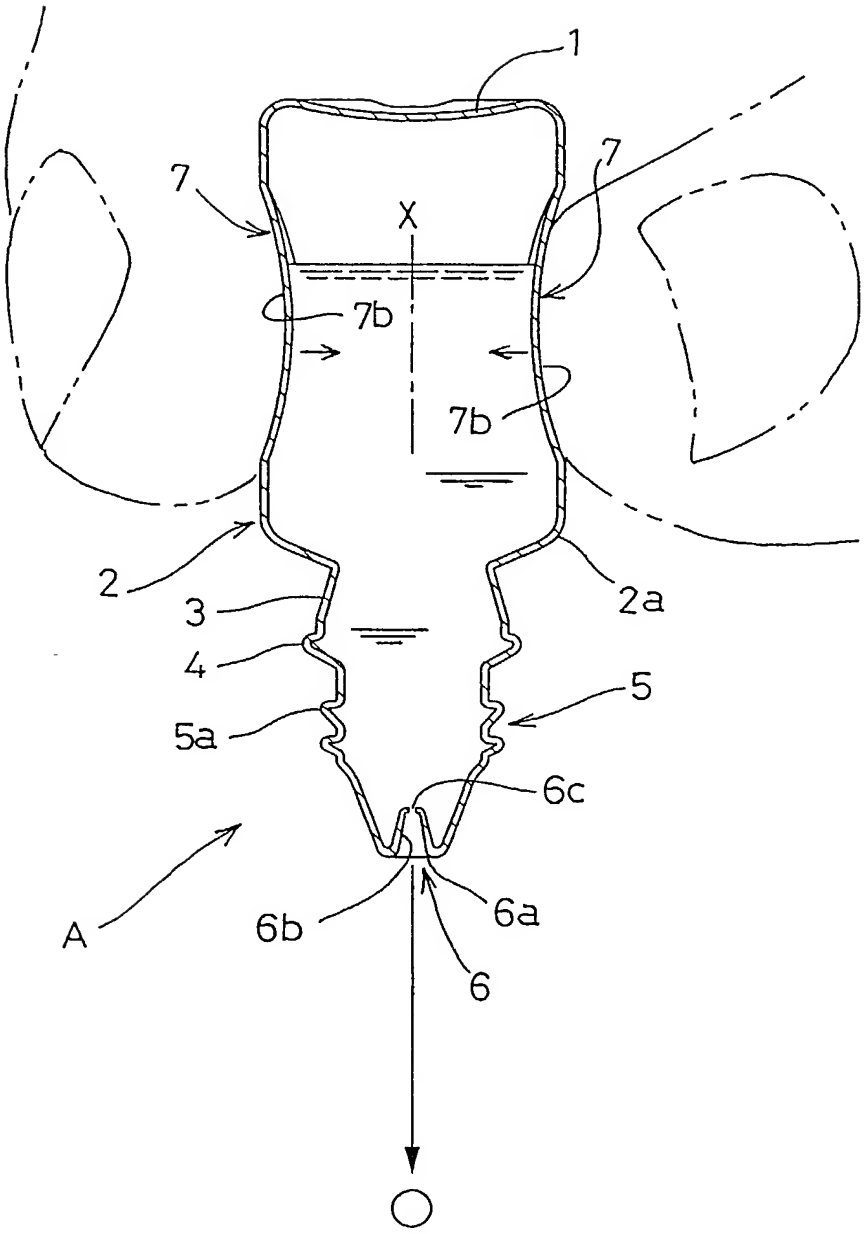


Fig. 11

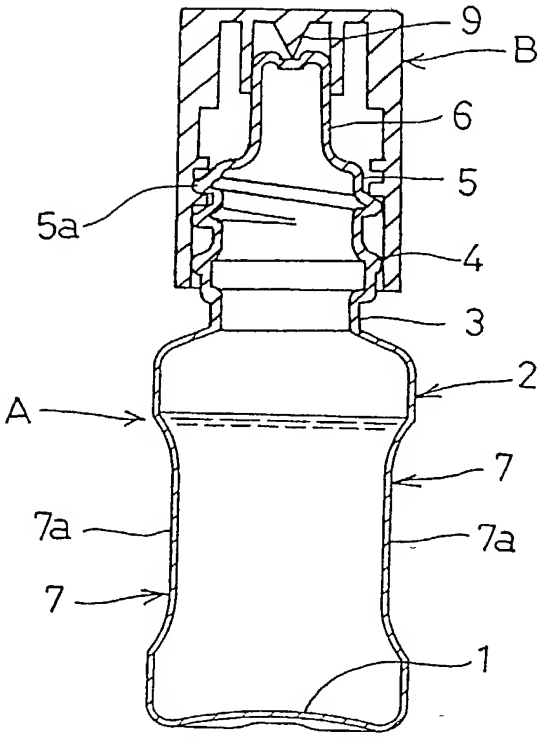


Fig. 12

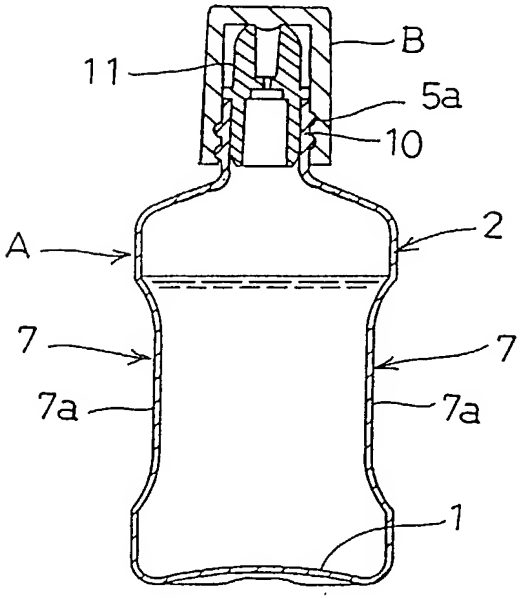
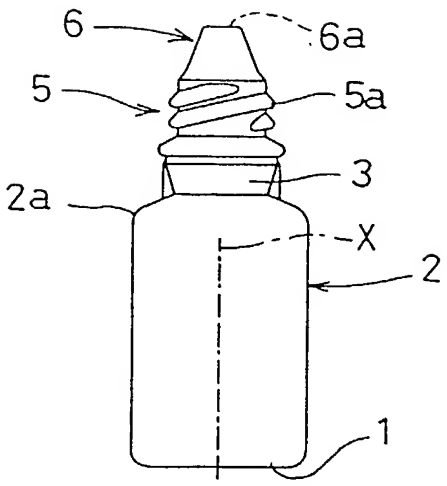


Fig. 13



COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

(Includes Reference to PCT International Applications)

ATTORNEY'S DOCKET NUMBER

10049694.061302

82US
TX11 π

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

EYE DROPS CONTAINER HAVING DENT PORTION

the specification of which (check only one item below):

☐ is attached hereto.

☒ was filed as United States application

Serial No. 10/049,694

on February 15, 2002,

and was amended

on ____________ (if applicable).

☒ was filed as PCT international application

Number PCT/JP00/05458

on August 14, 2000,

and was amended under PCT Article 19

on ____________ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowlege the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 USC 119
Japan	Pat. 11-230652	17/August/1999	☒ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO
			☐ YES ☐ NO

10049694 .061302

Combined Declaration For Patent Application and Power of Attorney (Continued)

(Includes Reference to PCT International Applications)

ATTORNEY'S DOCKET NUMBER

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowlege the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

U.S. APPLICATIONS		STATUS (Check one)		
U.S. APPLICATION NUMBER	U S FILING DATE	PATENTED	PENDING	ABANDONED

PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO	PCT FILING DATE	U S. SERIAL NUMBERS ASSIGNED (if any)			

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(List name and registration number)*

17

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Frederick B. Ziesenheim	19,438	Michael I. Shamos	30,424	James G. Porcelli	33,757
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201	SIGNATURE OF INVENTOR 202	SIGNATURE OF INVENTOR 203
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DATE Yoichi KAWASHIMA May 20, 2002	DATE Yukio KUSU May 20, 2002	DATE Hiroshi YAMADA May 20, 2002